

REMARKS

I. Status of Claims

Claims 1-9, 11 and 14-16 are pending in the application, and all the claims are rejected.

Claim 1 is amended to recite that the Rf group is a perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms. Support for the amendment can be found, for example, at page 5, lines 9-14 of the present specification. Applicants intended to amend claim 1 in the Amendment filed September 19, 2008 as indicated in the Remarks portion of the Amendment.

No new matter is added. Entry of the Amendment is respectfully requested as placing the case in condition for allowance.

II. Response to Claim Objection

Claim 4 was objected to because the Examiner assumed that "Rsi-X-" and "Rsi" at lines 2 and 3 of the claim, should be read as "RSi-X" and "RSi," respectively.

Applicants respectfully disagree. Claim 4 recites "wherein the A group in the formula (II) is represented by the formula: Rsi-X-". The moiety "Rsi" is then further defined as " $R^{11}-(Si(R^{12})_2)_p$ -, or $R^{11}-(Si(R^{12})_2-O)_p$ -. Therefore, "si" in Rsi is only an identifying subscript, and does not represent a chemical element. Accordingly, Rsi-X and Rsi are not RSi-X and RSi, respectively.

Withdrawal of the objection to claim 4 is respectfully requested.

II. Response to Claim Rejection Under 35 U.S.C. § 112, ¶ 2

Claims 2-6 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Specifically, the Examiner considered that the recitation of a "fluorine-containing monomer" at lines 2 and 3 of the claim is confusing because claim 2 depends from claim 1, and claim 1

defines the “fluorine-containing monomer” as specifically having repeating units of formula (I). Claims 3-6 are included in the rejection because they depend from claim 2.

Applicants respectfully traverse.

Claim 2 is directed to the embodiment (a) of claim 1 where the fluoropolymer contains a silicon atom. That is, claim 2 is directed to the polymer which contains both of a fluorine atom and a silicon atom. Applicants believe that claim 2 as presented in the Amendment under 37 C.F.R. § 1.111 filed September 19, 2008 is clear and definite, and withdrawal of the foregoing rejection is respectfully requested.

IV. Response to Rejection Under 35 U.S.C. § 102

Claims 1-3, 5-6, 10-11 and 14 were rejected under 35 U.S.C. §102(b) as being anticipated by Inukai (U.S. Patent No. 5,128,389).

Applicants respectfully traverse.

Amended claim 1, is directed to a surface treatment agent comprising a fluoropolymer which has repeating units derived from a fluorine-containing monomer of Formula (I), where R_f is a linear or branched perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms.

In contrast, Inukai describes that R² in a corresponding position is a fluorine-containing alkyl group, alkenyl group or ether group. See column 2, lines 26-27 of Inukai. Additionally, Example 1 of Inukai describes hexafluoroneopentyl α-fluoroacrylate. The hexafluoroneopentyl group is not a perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms, as presently claimed.

Therefore, Inukai does not teach each and every element of amended claim 1 such that the rejected claims are not anticipated by Inukai. Claims 2-3, 5-6, 10-11 and 14 are also distinguishable over Inukai, at least by virtue of their dependence from claim 1.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the §102 rejection based on Inukai.

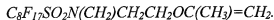
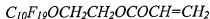
V. Response to Rejection Under 35 U.S.C. § 103

Claims 1-11 and 14-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP '472 (JP 63-101472) in view of Ohmori (U.S. Patent No. 5,021,501).

Applicants respectfully traverse.

An English language translation of the passage of JP '472 at page 2, line 13 to page 3, line 7 was provided with the Amendment of September 19, 2008, and is as follows:

The fluorinated water and oil repellant, which is one essential component in the water and oil repellent treating agent, is a homopolymer of a vinyl monomer having a C₄ to C₁₈ fluoroalkyl or fluoroalkenyl group, or a copolymer of said vinyl monomer and a fluorine-free vinyl monomer. Representative examples of said vinyl monomer having a C₄ to C₁₈ fluoroalkyl or fluoroalkenyl group include the following:



JP '472 further discloses that a carbon atom at the α -position of a carbonyl group has only H or CH₃, as described above by the five chemical formulae. However, JP '472 does not disclose or suggest substitution of H or CH₃ at the α -position by a fluorine atom, as

required by present claim 1. In the present invention, substitution at the alpha-position is essential for providing the effects of the invention.

Ohmori, at column 2, lines 49-55, discloses examples of fluorine-containing monomers, which include monomers having a perfluoroalkyl or perfluoroalkenyl group having at least 7 carbon atoms, in addition to monomers having the perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms defined in the present claim 1. Ohmori does not distinguish the monomer having a perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms from the monomer having a perfluoroalkyl or perfluoroalkenyl group having at least 7 carbon atoms. Furthermore, working Examples of Ohmori do not disclose the perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms. Thus, Ohmori does not disclose or suggest the importance of the perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms.

In the present invention, the combination of (i) the perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms and (ii) the substitution at the α -position in the fluorine-containing monomer can give the advantageous effects of the present invention (that is, excellent water and oil repellency, soil resistance while keeping the feeling of textile, cf., for example, page 3, lines 1-6 of the English Description).

Neither of JP '472 nor Ohmori discloses or suggests that the combination of the perfluoroalkyl or perfluoroalkenyl group having 1 to 6 carbon atoms and substitution at the α -position in the fluorine-containing monomer can give excellent water and oil repellency, soil resistance while keeping the feeling of textile which can be achieved in the present invention.

In view of the above, Applicants submit that the present invention is not obvious over JP '472 in view of Ohmori. Therefore, Applicants request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a).

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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